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RESEARCH NOTE

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REST-ROTATION MANAGEMENT MINIMIZES EFFECTS OF DROUGHT

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The past year, 1959, was one of the driest years on record in California. Throughout central and northern California winter precipitation was light and temperatures above normal. At Harvey Valley on the Lassen National Forest where rest-rotation grazing management is being tested on a practical range allotment basis, only 9.6 inches of precipitation were recorded during the 12 months. The long-time annual average is 18.0 inches. Only 1.3 inches came during the first 3 months of 1959, and April was without measurable rainfall. Less than 6 inches came during May and June, the two most important growing season months. July and August brought less than an inch. The 1.4 inches in mid-September came too late to benefit perennial type ranges.

This situation, typical of many localities, brought hardship to unknown numbers of livestock and caused early termination of grazing on summer ranges generally.

Cattle Make Good Gains

At Harvey Valley, however, range cattle gave good weight gain performance and remained on the allotment for the usual four months season.

Wet cows gained from one-sixth to one-third of a pound per head per day, depending on age, throughout the 120-day season. Young cows with their first calves gained less than older cows. Calves gained from 1.4 to 1.6 pounds per head per day; steer calves were ahead of heifers in every case. Among the steer calves, Hereford-Angus crossbreds gained most, straight Herefords slightly less, and straight Angus the least. In terms of starting weights, though, the Angus were heaviest and the Herefords lightest; the crosses were 2 pounds heavier

than the Herefords. Among the heifers, the lightest ones gained least, but only slightly less than the other groups. Calf weaning weights ranged from 421 pounds for Hereford heifers to 465 pounds for Angus steers.

Yearling heifers gained nine-tenths of a pound per day and 51 head of yearling steers gained one pound each per day on the average.

Season-long Grazing

As applied on the Harvey Valley range allotment, rest-rotation grazing each year divides the four-month season midway for two range units. One is grazed by 200 animal-units the first half of the season then rested, and the other is rested the first half and grazed by 400 the second half. A third unit is grazed season long, by 300 the first half and 100 the second half.

This schedule provides a comparison of animal performance on season-long range versus animals moved to fresh range at mid-season. Ordinarily a move to fresh range at mid-season can be expected to carry some advantage to the animals. On the other hand new surroundings can off-set the benefits of the fresh range.

In 1959 animal performance on the unit grazed season long and on the one grazed only the last half of the season was not consistent between classes of cattle. Yearling heifers and wet cows grazed season long on the same range gained as much or more than similar animals moved at mid-season. Calves moved at mid-season, on the other hand, gained 5 to 8 pounds more than the others. This could have resulted from the maintenance of milk flow in the cows on fresh range. Nevertheless, such a small difference is unimportant. Considering all classes of cattle, season-long grazing gave the best animal performance during the past dry year.

Good Management Responsible

Why did cattle on the same range season-long do so well during drought and as well as cattle moved at mid-season to fresh range? The range unit grazed season-long had the benefit of 7 years of rest-rotation management before 1959.

Beginning with 1952 this unit was rested all season. In 1953 it was grazed only the first half of the season by 200 animal units. The next year it was fully used, 300 head the first half and 100 the last half of the season. In 1955 it was completely rested as it was during the first half of the 1956 season and all of the 1957 season. During the first half of 1958 this area was grazed by 200 animal units then rested thereafter.

Three full seasons plus 3 half seasons of rest in 7 years undoubtedly benefitted this range, thus permitting it to carry 300 animal units to mid-season and 100 thereafter in 1959. Nearby ranges grazed season long, year after year, provided less grazing and smaller cattle gains during droughty 1959.